Effective and Promising Practice Interventions for Increasing Healthy Eating, Increasing Physical Activity and Decreasing Tobacco Use and Exposure in Community-Based Settings

Acknowledgement
This document was adapted from the following materials published by the Centers for Disease Control and Prevention: The State Nutrition, Physical Activity, and Obesity (NPAO) Program Technical Assistance Manual, January 2008; Best Practices for Comprehensive Tobacco Control Programs, 2007 (available online at http://www.cdc.gov/tobacco/tobacco_control_programs/stateandcommunity/best_practices/); and The Community Guide (available online at www.thecommunityguide.org).

Introduction

The Building Healthy Communities program supports local efforts to work with communities to develop, implement, and evaluate policy and environmental change interventions that address behaviors related to the three following target areas:

- Improving healthy eating
- Increasing physical activity
- Decreasing tobacco use and exposure

This document provides background and rationale for each target area, intervention strategies and examples of interventions. The example interventions are provided as illustrations of a strategy only, some examples as described are not appropriate for replication through the Building Healthy Communities program and would require modification to be consistent with the goals of the program. This document is an overview of the current literature for implementing policy and environmental interventions for each of the target areas. It is designed to assist local health departments in planning their projects and is not intended to provide an exhaustive list of all types of interventions that would fit the program.

Design and Implement Strategies and Interventions

Public health practitioners can implement interventions at every level of the Social-Ecological Model (societal, community, organizational, interpersonal, and individual levels). Interventions in the Building Healthy Communities program should include an approach that creates environments, policy and practices that support both the increase in physical activity and improvement in dietary behaviors, as well as reduce tobacco use and exposure, within the target audience. Interventions that are multi-component (creating access with campaigns for awareness, etc.) go beyond the audience acquiring new knowledge and toward building skills and practicing the desired behavior. Approaches and interventions selected should be determined only after formative assessment of the target audience. Further assessment of the target audience and their needs, barriers and goals will direct the practitioner to the most appropriate intervention to reach the target population's nutrition, physical activity, and tobacco goals. Evaluation planning in the early stages of developing interventions is also critical.

Terminology
Effectiveness: Describes the effectiveness of interventions reported in systematic reviews and individual studies published in peer-reviewed journals. One of the most rigorous types of evidence is the scientific reviews of published studies conducted by the Task Force on Community Preventive Services.

Evidence-based: This term is used to describe interventions that have sufficient evidence showing their effectiveness in improving the behaviors being targeted. This evidence is often from published studies.

Intervention strategy: The term strategy is not used consistently in evidence summaries and literature reviews of interventions. In this manual the term strategy is used to describe an approach, course of action, or method used to achieve an objective, which in turn is a means to achieving a goal. A strategy may be a health intervention at the individual or population level, but it can also refer to such things as a systems change initiative.

Intervention: Any kind of planned activity or group of activities (including programs, policies, and laws) designed to prevent disease or injury or promote health in a group of people.

Intervention example: Examples of interventions are provided as illustrations of the strategy. They were obtained from the Community Guide review, other objective reviews, or peer-reviewed articles. Other interventions consistent with the strategy may also exist. Users of this manual may not always find available materials to replicate the interventions described in this manual.

Promising practice: This term is often used to describe interventions that have demonstrated some successful results but do not have sufficient evidence of effectiveness to say that they are "evidence-based". Generally, these are interventions that have not adequately studied, either because of lack in the number of studies evaluating the intervention or insufficient rigor of studies that have evaluated the intervention.

Target Area: Healthy Eating

Background and Rationale
The strategies outlined for Healthy Eating specifically apply to increasing fruit and vegetable consumption. Compared with people who consume a diet with only small amounts of fruits and vegetables, those who eat more generous amounts as part of a healthful diet are likely to have reduced risk of chronic diseases, including stroke and perhaps other cardiovascular diseases, and certain cancers (1-3). Fruits and vegetables are also relatively low in calories per volume of food because of their high fiber and water content; thus, in their natural form they are low in energy density. Substituting fruits and vegetables for higher-energy-dense foods, such as those high in fat and added sugars, can therefore be part of a successful weight management strategy (4,5).

The CDC publication, *Can eating fruits and vegetables help people to manage their weight*? (Research to Practice Series No. 1) examines the evidence from available studies to determine whether or not eating fruits and vegetables can help with weight management (5).

Despite evidence supporting the health benefits of consuming fruits and vegetables, very few Americans consume the recommended amounts. The *Healthy People 2010* objectives for the nation (6) include increasing to 75% the percentage of persons who eat at least two daily servings of fruit and increasing to 50% the proportion of persons who eat at least three daily servings of vegetables. In 2005, only 1 in 3 adults (32.6%) met the fruit objective and 1 in 4 adults (27.2%) met the vegetable intake (7). The 2005 Dietary Guidelines (8) recommend 2 cups of fruit daily and 2 ½ cups of vegetables per day for many Americans (based on their level of physical activity and caloric needs). However, an assessment of fruit and vegetable intake found that about 1 in 10 Americans consume the recommended amounts and even fewer consume adequate variety including those delivering vital micronutrients such as dark green and orange vegetables (9). In general, Americans with lower consumption include men, younger adults, and those with less education and lower incomes. Public health approaches for eating behavior change in populations have focused on increasing individual knowledge and awareness through educational approaches. The National Fruit and Vegetable Alliance (NFVA) is a national partnership dedicated to coordinating efforts across key public and private organizations to increase the amount of fruits and vegetables consumed by Americans. CDC is the lead federal agency and health authority for the NFVA. The Fruits & Veggies—More Matters® brand[1] that was developed by the NFVA is used to promote fruit and vegetable consumption through health education campaigns, printed materials, and consumer Web sites: http://www.fruitsandveggiesmorematters.org/ and http://www.fruitsandveggiesmatter.gov.

Many barriers prevent adequate consumption of fruits and vegetables including lack of knowledge about health benefits, availability, cost, individual taste preferences, social support, preparation skills, and time available for preparing food. Studies also show disparities in access to fruits and vegetables as measured by type of stores, geographic distance, or store concentration (10). Choosing healthy foods is difficult in environments where retail establishments are comprised mainly of convenience and stores and fast food restaurants or for individuals dependent on public transportation for supermarket access.

Overview of Strategies

Several multi-component interventions that include behavioral and environmental approaches to increase fruit and vegetable consumption are published. Many of these multi-component interventions to increase fruit and vegetable consumption are included in comprehensive intervention programs to prevent cardiovascular disease or obesity that may include other interventions for dietary or physical activity behaviors. However,

[1] The Fruits & Veggies—More Matters brand replaced the 5 A Day for Better Health brand in 2007.

the term multi-component is used here to describe the different components included in the interventions to increase consumption of fruits and vegetables.

Typical environmental strategies used in these interventions include changes in food availability (physical access or environmental opportunity), price (economic access, incentives), or promotional, advertising, and point-of-purchase information whereas policy strategies include the setting of standards for training of staff or foods served in cafeterias or meetings. Recently, greater attention has been given to the role of environmental influences on food choices and to policies that might increase access and availability to fruits and vegetables. In this manual the term access includes geographic accessibility to a food retailer (e.g., the distance to stores), the type of food retailer in the vicinity (e.g., supermarkets, small stores, or farmers' markets), and public transportation systems that provide access to food retailers. The term availability includes the number and types of fruits and vegetables offered. Increasing the availability of fruits and vegetables can be achieved through a variety of ways such as training food-service staff on how to make existing menu items more healthful by adding fruits and vegetables and partnering with the food system to provide more fruit and vegetable options.

Environmental and policy strategies address local area barriers such as access, availability, and cost of fruits and vegetables. For example, without access to grocery stores that offer a wide variety of quality, nutritious foods at lower prices, poor and minority communities may not have the ability to purchase and consume a variety of healthy food (19). Policies aimed at improving fruit and vegetable consumption should consider the physical environment, economic determinants (cost, income), and promotion strategies (marketing and advertising) with consideration of the many factors influencing decisions on food choice. Decisions related to food choice include biological determinants such as hunger, appetite, and taste; education, skills (e.g., cooking) and time; social determinants such as culture, family, peers and meal patterns; and, attitudes, beliefs and knowledge about food (20). Therefore, efforts to develop policy and environmental strategies should consider use of a social-marketing approach in the same way that planners of behavioral change strategies do. This approach will help planners understand barriers to and determinants of fruits and vegetable purchases and consumption among different demographic groups; shopping and purchasing behaviors; and how the prices of fruits and vegetables and perceptions of their quality and affordability influence purchases and ultimately consumption.

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Healthy Eating Strategy 1: Increasing Access to Fruits and Vegetables

Description

Increasing access makes it easier for people to obtain fruits and vegetables. To date, research has focused on defining the relationship between where people live and their access to fruits and vegetables. Little research has evaluated the impact of policy and environmental changes designed to increase access to fruits and vegetables. Factors related to access of fruits and vegetables include geographic accessibility (e.g., the distance to stores), the type of food retailer in the vicinity (e.g., supermarkets, small stores, or farmers' markets), as well as access to homegrown or local produce. In some communities, food access is a transportation problem. Increasing access in these communities includes making sure people can get to food-service outlets that offer fruits and vegetables, either by ensuring that public transportation is available or by bringing food retailers to their neighborhood (1,2). Communities are seeking innovative ways to improve food access through solutions that focus on improving transportation options, supporting urban agriculture and farmers' markets, and expanding food options at the corner grocery store. However, few studies have been published. Practical strategies that may increase the access to fruits and vegetables include:

• Local Food Policy Committees that represent a wide range of organizations with a stake in the local food system that develop policies to improve access to fruits and vegetables and support local agriculture.

• Economic and urban planning land-use policies that include establishing new grocery stores, improving convenience stores, and promoting community gardens and farmers' markets.

• Federal and local transportation policies that support walking, bicycling, and public transit to grocery stores and to farmer's markets.

• Direct marketing of farm-to-plate policies and programs, such as community-supported agriculture, farm-to-work and farm-to-school programs, and farmers' markets.

Because there are few interventions, there are not general characteristics across interventions for this strategy.

Examples

• *Penrith Food Project* (1) is a case study of a 10-year evolution of a local intersectoral project designed to improve components of a community's food system as an approach to improving nutrition. The project established a standing Food Policy Committee, which plans and oversees project implementation and promotes local food system reform consistent with community nutrition objectives. Members of the Food Policy Committee are directors or supervisors representing a wide range of organizations with a stake in the local food system. The five key areas identified by the Food Policy Committee were 1) improving access to food retail outlets and related transportation services, 2) expanding the availability of healthy choices in food outlets and food services, 3) increasing community facilities and support for breastfeeding, 4) promoting local agriculture, and 5) increasing the safety of food sold. Policies that the Food Policy Committee developed cover food access in planning new housing developments; home-delivery fruit and vegetable services; establishment of fruit stands in business districts; home-delivery of groceries for homebound seniors; and bus route changes to improve access to grocery stores.

• *Philadelphia Food Marketing Task Force* (3) is a group convened by the city council to research the lack of supermarkets in Philadelphia. The Task Force released a report, "Stimulating Supermarket Development: A New Day for Philadelphia," containing ten recommendations to increase the number of supermarkets in Philadelphia's underserved communities. The Philadelphia Food Marketing Task Force has also inspired two new state-level financing tools for supermarket development and support of local agriculture, the Fresh Food Financing Initiative and First Industries. The Fresh Food Financing Initiative is using a $20-million infusion of public funds to leverage an $80-million financing pool for supermarket development. So far the fund has contributed to the establishment of eight new grocery stores. First Industries is an economic stimulus program that provides grants, loans, and loan guarantees to agriculture-related business.

• *Farmers' Market Salad Bar Program* (4) was launched in 1997 by the Santa Monica-Malibu Unified School District (SMMUSD) at McKinley Elementary School. The program was designed to incorporate fresh locally grown fruits and vegetables into the district's school lunch program. The pilot program had the dual purpose of increasing students' consumption of fresh fruit and vegetables and supporting local farmers' by purchasing produce directly from them at local farmers' markets. On the basis of the 1997 pilot project, the program was expanded in the SMMUSD district by the year 2000 from one

to 11 schools—nine elementary schools and two middle schools. As the Santa Monica-Malibu salad bar program progressed, project evaluation showed that the model was economically viable from the district's point of view and provided a consistent income to local farmers.

• The Seniors Farmers' Market Nutrition Program (SFMNP) (5) provides vouchers to low-income seniors for use at local farmers' markets. The purposes of the vouchers are to 1) provide resources in the form of fresh, nutritious, unprepared, locally grown fruits, vegetables, and herbs; 2) increase the domestic consumption of agricultural commodities by expanding or aiding in the expansion of domestic farmers' markets, roadside stands, and community supported agriculture programs; and 3) develop or aid in the development of new and additional farmers' markets, roadside stands, and community supported agriculture programs. Farmers reported benefits from the program, have a positive attitude about it, and are willing to make certain accommodations to participate in it again.

Effectiveness
Although there is agreement that policy and environmental changes to increase fruit and vegetable consumption are important, few published studies are available to document their effectiveness in changing fruit and vegetable consumption. Policy and environmental interventions to increase fruit and vegetable consumption need to be created and evaluated.

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Healthy Eating Strategy 2: Increasing Availability of Fruits and Vegetables

Description
Increasing the availability, variety, and convenience of fruits and vegetables are important policy and environmental strategies to increase consumption. Availability focuses on the number and types of fruits and vegetables offered. Increasing the availability of fruits and vegetables can be achieved through a variety of ways such as training food-service staff on how to make existing menu items more healthful by adding

fruits and vegetables, and partnering with the food system to provide more fruit and vegetable options such as in retail outlets including restaurants, food courts, cafeterias, lunch wagons, deli counters, take-out food sources, bars and coffee shops that serve food and food service businesses and catering services (1-4). However, few studies have been published. Practical strategies that may increase the availability to fruits and vegetables include:

• Marketing of food products such as bagged, prewashed spinach and salad or “snack-pack” baby carrots and celery sticks, which provide consumers with convenient preparation and take-out options.

• Modifications of worksite cafeteria menu options and vending machine policies to increase the availability of fruits and vegetables.

• Modification of menu options by restaurants and other food establishments to include more fruits and vegetables in mixed dishes, salad bars, and broth-based soups; and adding more green salads as appetizers and a variety of fruit as dessert options to provide people with healthier choices.

• Promoting more variety of fruits and vegetables in grocery stores including increased placement and shelf space with or without labeling and signage strategies.

• Increasing fruit and vegetable offerings in other retail food markets such as farmers’ markets.

Because there are few interventions, there are not general characteristics across interventions for this strategy.

Examples

• *The North Karelia Project* (6) was launched in Finland in 1972-1977 in response to the local petition to get urgent and effective help to reduce the great burden of exceptionally high coronary heart disease mortality rates in the area. The intervention used multiple strategies: from innovative media and communication activities and systematic involvement of primary health care to environmental and policy changes in collaboration with food industry and agriculture. An innovative intervention example was the berry project. Over the years, many people voiced concerns about the dietary aims of the project in the area, which was initially strongly devoted to dairy farming. With people sharply reducing their consumption of butter and fatty dairy products, economic problems emerged for dairy farmers and the dairy industry. People were also unsatisfied with the message promoting the consumption of products that were mostly imported, such as fruit and vegetables. During these discussions, the community and project representatives considered the feasibility of growing berries in the northern climate. This led to a major collaborative project between berry farmers, industry, various commercial sectors and the health authorities, which was financed by the Ministry of Agriculture and the Ministry of Commerce. Sales campaigns, new product development and various supportive activities were also involved, in addition to

education. Local berry consumption rose gradually, and many farmers switched from dairy to berry production.

• *A supermarket study* (7) examined the retail price, newspaper advertising, display space, and display location quality for selected fruits and vegetables using a fractional factorial research design in four large supermarkets. The resulting impact on rates of sale was analyzed for four classes of items; hard fruit, cooking vegetables, salad vegetables, and soft fruit. The “bonus space” for products in stores increased sales, and improving the quality of the foods' locations significantly increased sales of hard fruit and cooking vegetables.

Effectiveness
Evidence suggests that increasing that availability of healthful food can improve eating habits in a variety of settings and among diverse populations (5-8). In many cases, this strategy has been combined with other healthful-eating strategies, such as point-of-purchase labeling or economic incentives. Additional studies are needed to confirm these positive findings.

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Healthy Eating Strategy 3: Economic Incentives

Description

The cost or affordability of fruits and vegetables is a commonly cited reason why consumers do not eat more of these healthy foods (1). Economic incentives that consist of pricing policies are strategies that are geared toward increasing the sales and/or consumption of healthful foods such as fruits and vegetables. Economic incentives usually take the form of reduced prices, discount coupons, vouchers redeemable for fruit and vegetable purchases, or bonuses tied to the purchase of fruits and vegetables. Bonuses and voucher approaches used by Food Stamps and WIC are expected to influence food choice through the price effect (effectively lowering the price of fruits and vegetables) and the income effect (giving the participant additional income to spend on food). Often economic incentives are combined with other healthful-eating strategies, such as point-of-purchase labeling or nutrition education. However, few studies have been published. Practical economic incentive strategies that may affect fruit and vegetable consumption include:

• Price reductions of fruits and vegetables in a worksite cafeteria.

• Food Stamp pilot bonus program providing participants with additional financial bonuses for every $1 of food stamps spent on fresh produce.

• WIC and supplemental food program vouchers redeemable for fruit and vegetable purchases at grocery stores and farmers' markets.

Because there are few interventions, there are not general characteristics across interventions for this strategy.

Examples

• *Fruit and Salad Purchases in a Worksite Cafeteria* (2)*:* This intervention involved two changes from usual cafeteria service. First, the selection of fruits and salad bar choices was increased. Six fruit choices were made available daily throughout the intervention period rather than three, and three additional fresh vegetables were added to the salad bar. Second, the price of salad and fruit was reduced by 50%, from 50 to 25 cents for a piece of fruit and from four to two dollars per pound for salad. The intervention was advertised by posting signs in the cafeteria daily and by a flyer placed in each employee's mailbox. Fruit and salad purchases increased threefold in the intervention period compared to those in the nonintervention period.

• *Healthy Purchase Program* (4) is a pilot bonus program passed by the California legislation. Under this program, for every $1 of food stamps spent on fresh produce, participants receive a specified portion back as a bonus. These bonus or voucher approaches could be expected to influence food choices through a price effect (they lower the price of the target food) and through an income effect (they give the participant additional income to spend). If price is the barrier to fruit and vegetable consumption, lower prices should result in food stamp households purchasing more

fruits and vegetables. This bonus program includes nutrition education related to fruits and vegetables that may increase the likelihood that food stamp participants will use the additional income to purchase more fruits and vegetables.

• *WIC in Los Angeles County* (5)*:* The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in Los Angeles conducted a study of the impact of vouchers for purchasing fresh fruits and vegetables among low-income mothers. WIC mothers were issued $10 worth of vouchers per week to buy produce of the participant's choice at either a supermarket or a year-round farmers' market. Participants' consumption of fruits and vegetables and the redemption rates of the vouchers were tracked over the 14-month period of the study. The redemption rates for the farmers' market and the supermarket were similar, 90.7% and 87.5%, respectively. Overall, participants reported purchasing 27 and 26 different fruits and 34 and 33 different vegetables in the farmers' market and supermarket, respectively. These high redemption rates and the larger numbers of different produce consumed confirmed that low-income families highly value the ability to purchase and consume a wide variety of fresh produce.

Effectiveness
There is evidence that economic incentives in the form of reduced prices can increase sales and/or consumption of fruits and vegetables (2-5). Additional studies are needed to confirm these positive findings.

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Target Area: Physical Activity

Background and Rationale
Regular physical activity helps maintain good health across the life stages. It substantially reduces the risk of coronary heart disease—the nation's leading cause of death and decreases the risk for stroke and breast and colon cancer. It also contributes to healthy bones, muscles, and joints and promotes healthy growth and development in

children and reduces the risk of falls among older adults. Physical activity reduces the risk of anxiety and depression and promotes psychological well-being, and is associated with fewer hospitalizations, physician visits, and medications. Regular physical activity is effective, recommended treatment for many chronic diseases, including arthritis, heart disease, high blood pressure, high blood cholesterol, osteoporosis, diabetes, and chronic lung disease. In addition, physical activity, combined with appropriate calorie intake, is an important component of weight control. In both adults and children, physical activity reduces the adverse effects of overweight and obesity, such as elevated blood pressure, hyperlipidemia, and glucose intolerance (1-3).

Despite these well-documented benefits, 52% of U.S. adults in 2005 did not engage in recommended amounts of physical activity; during that same time, 27.5% of adult men and 23.2% of adult women did not engage in any physical activity during their leisure time (4) [BRFSS 2005]. There is also cause for concern among adolescents: In 2003, for example, 10% of surveyed youth had not participated in any moderate or vigorous physical activity during the prior week (4) [YRBS 2005]. Barriers for individuals include lack of time, energy, motivation, skills, resources, and supportive social environments; concerns about injury; inclement weather; age-related loss of fitness and health problems (5-7). Community barriers for physical activity include lack of access to quality recreational facilities (i.e., parks, trails, and gyms) and public transit (bicycle and pedestrian infrastructure and connectivity)(8-9).

Changing physical activity behaviors requires an understanding of how factors at each level of the social ecological model affect the individual's physical activity. Therefore, understanding the determinants of physical activity becomes the cornerstone in setting policies, recommendations, and guidelines that better enable individuals and communities to engage in physical activity as part of a healthier lifestyle and helps to guide the development, implementation, and evaluation of interventions. Physical activity resources for health professionals may be found on CDC's Web site: http://www.cdc.gov/nccdphp/dnpa/physical/health_professionals/index.htm

Overview of Strategies

The Community Guide recommends the following eight community-level physical activity intervention strategies (10-12). The most appropriate strategies for Building Healthy Communities are described in detail below. Though they are described separately, these interventions are typically multicomponent and can share the same components in practice. For example, community-wide campaigns can simultaneously use social support and point-of-decision prompts to create or enhance access to places for physical activity. For any intervention strategy to be selected, decision-makers should consider these interventions in light of factors such as community resources, needs, priorities, and constraints.

Community Guide Approaches and Interventions

Informational

- Community-wide campaigns
- Point-of-decision prompts

Behavioral and social
• Individually adapted health behavior change programs
• Enhanced school-based physical education
• Social support interventions in community settings

Environmental and policy
• Creation of or enhanced access to places for physical activity combined with informational outreach activities
• Community-scale urban design/land-use policies and practices
• Street-scale urban design/land-use policies and practices

Promising Interventions
• Safe Routes to School

Physical Activity Strategy 1: Community-Wide Campaigns
Description (1-5)
Community-wide campaigns can successfully integrate multiple strategies in community settings to positively affect levels of physical activity and related outcomes. The following are general characteristics of community-wide campaigns:

• They are large-scale, intense, and highly visible, with messages directed to large audiences through various media, including television, radio, newspapers, movie theaters, billboards, and mailings.

• They include non-media components such as:
    o partnerships

    o environmental change (e.g., new walking trails)

    o policy change

    o social support (e.g., buddy system, self-help groups)

    o physical activity counseling

Examples
• *Wheeling Walks* (6) used paid advertising to encourage walking among sedentary older adults. The program's campaign activities included paid newspaper, TV and radio advertising; weekly press conferences and news coverage; worksite programs; Web site exposure; and other public health education programs implemented by physicians, health professionals, and ministers. The results indicate that 30% of Wheeling's sedentary residents increased their walking to the recommended level compared to a 16% increase in a control community.

• *BC Walks* (7) promoted 30 minutes or more of moderate-intensity daily walking among insufficiently active residents of Broome County, New York, aged 40 to 65 years. Promotion activities included paid advertising, media relations, and community health activities. Impact was determined by pre-intervention and post-intervention random-digit-dial cohort telephone surveys in intervention and comparison counties. Exposure to the campaign was reported by 78% of Broome County survey respondents. Sixteen percent of Broome County participants changed from non-active to active walkers compared to 11% in the comparison county. Forty-seven percent of Broome County respondents reported an increase in total weekly walking time compared to 36% in the comparison county.

Effectiveness (2-4)

• The Community Guide rates the evidence for community-wide campaigns as strong.

• The recommendation for community-wide campaigns is based on review of 10 studies in which the median effect size suggests these campaigns result in a 5% increase in the proportion of the population that is physically active, and a 16% increase in average, individual energy expenditure.

• In addition to increasing physical activity, community-wide campaigns were often shown to improve community capacity by developing or strengthening social networks and by improving community members' sense of cohesion as well as their collective ability to bring about change.

• This strategy is effective among diverse populations (e.g., different racial/ethnic and socioeconomic groups) and in diverse settings (e.g., rural, urban).

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Physical Activity Strategy 2: Point-of-Decision Prompts for Stairwell

Description (1-5)

Point-of-decision prompts are low-cost, easy to implement, and effective ways to increase levels of physical activity by increasing the number of individuals who use stairs instead of elevators or escalators in worksites and elsewhere in the community. Most interventions are multi-component involving physical change of stairwell, promotion of stairwell as a means of daily physical activity and sometimes include a challenge or competition. This type of intervention would need to be part of a larger policy and environmental change strategy to be suitable for the Building Healthy Communities program. The following are general characteristics of Point-of-Decision Prompts for Stairwells:

• Visual cues (e.g., signs or banners posted near elevators, escalators, or moving walkways) designed to encourage individuals to use stairs.

• A variety of messages highlighting the benefits of physical activity, weight loss, and saving time. Examples (6) include: “Your heart needs exercise, use the stairs.” “Improve your waist line, use the stairs.”

• Signs designed to be highly visible (e.g., through placement and size).

• Reminders to people that opportunities to be more physically active are nearby.

• Making stairs a viable and appealing option by ensuring stairwells are accessible, safe, well-lighted, and clean, and by providing music or displaying art.

Example

• *Stairwell to Better Health* (6) was a study conducted by CDC’s Division of Nutrition and Physical Activity to determine if making physical changes to a stairwell in the Atlanta-based, Koger Center Rhodes Building, along with adding music and motivational signs would motivate employees to use the stairs instead of the elevator.

Effectiveness (2-4)

• The Community Guide rates the evidence for point-of-decision prompts as sufficient.

• The recommendation for point-of-decision prompts is based on review of six studies in which the median effect size suggests that these prompts increase stair use by 54%.

• This intervention is effective among diverse populations (e.g., men, women, the obese, older adults) and in diverse settings (e.g., malls, subways, trains, bus stations, university libraries).

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Physical Activity Strategy 3: Create or Enhance Access to Places for Physical Activity Combined with Informational Outreach Activities

Description (1-5)

This intervention provides and promotes physical activity opportunities for the target population by creating or improving access, combined with distribution of information. Efforts often involve the efforts of communities, worksites, coalitions, and agencies, and they create or improve access to places and facilities where people can be physically active. The following are general characteristics of interventions that create or enhance access to places for physical activity, combined with informational outreach activities:

• Creating access such as building a new facility or walking trail or providing access to an existing nearby facility in a community where an opportunity for physical activity did not exist.

• Enhancing or improving access or eliminating barriers to improve physical activity opportunities such as adding new equipment or extending facility hours of operation, extending or improving walking trails.

• Involving the efforts and partnerships of various community entities (e.g., worksites, coalitions, agencies, and community members) to create an ongoing and sustainable supportive environment for physical activity.

• Multi-component interventions that promote and sustain environmental or policy changes (e.g., promotion/awareness, skill-building, health education, referrals to physicians or additional services, health and fitness programs, and support or buddy systems).

Examples

• *The Physical Activity for Risk Reduction (PARR*) (7) project sought to promote physical activity among low-income and low-education African American residents of public housing and rental communities in Birmingham, Alabama. PARR enhanced access to existing facilities and physical activity programming by providing childcare, transportation, enhanced safety, and peer-led programming. To ensure enhanced access to facilities and programming, the PARR staff recruited and extensively trained individuals from each community and paid them as part-time leaders for the local activity sessions. Each participating community also received physical activity tools as well as incentives for participants that included weightlifting equipment, supplies for aerobics programs (including audiotapes and boom boxes), tools for screening participants (scales, stethoscopes and sphygmomanometers), and prizes for participation (mugs, t-shirts, certificates for free laundry, etc). As part of data collection prior to program implementation, several barriers to physical activity were addressed such as childcare, transportation, organized and facilitated walking groups, safer walking routes, and waived fees at local community recreation centers for a full year. Sixty-nine percent of community members attended at least one event.

Effectiveness (2-4)

• The Community Guide rates the evidence for creating or enhancing access combined with informational outreach to places for physical activity as strong.

• The recommendation for creating or enhancing access to places for physical activity is based on review of 10 studies in which the median effect size suggests this intervention results in a 25% increase in the proportion of the population who are physically active at least three times per week.

• Most of the studies reported weight loss or decrease in body fat among participants.

• This intervention is effective among diverse populations (e.g., different racial/ethnic minority and socioeconomic groups) and in diverse settings (e.g., low-income communities, industrial plants, universities, federal agencies).

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Physical Activity Strategy 4: Street-Scale Urban Design and Land-Use Policies and Practices

Description (1,2)

Using street-scale urban design and land-use policies and practices can help increase physical activity among target populations. The following are general characteristics of street-scale urban design and land-use policies and practices:

• They are implemented in small geographic areas, generally a few blocks.

• Urban-design elements and practices include:
  - o ensuring sidewalk construction or improvements
  - o increasing the ease and safety of crossing streets
  - o introducing or enhancing traffic-calming and speed-reduction measures (e.g., speed bumps, traffic circles)
  - o improving street lighting
  - o enhancing aesthetics of the street landscape
  - o addressing safety issues (e.g., perception of crime)

• Land-use policies and practices include:
  - o environmental changes
  - o roadway design standards
  - o zoning regulations
  - o building codes
  - o builders' practices

• A broad array of disciplines and expertise are used, such as public health professionals, urban planners, architects, engineers, and developers.

Example

• *Sunnyside Piazza* (3) was a neighborhood revitalization effort, the goal of which was to convert a neighborhood intersection that was in disrepair into an attractive community gathering place. They used artistic features intended to foster a sense of community, and they enhanced the street landscape, repaired and improved sidewalks, including the installation of a canopy. The intersection was enhanced by including a large sunflower street mural, a community kiosk with a solar-powered lamp, an art wall, seating areas adorned with glass mosaic, and overarching trellised hanging gardens in front of nearby homes. The multidisciplinary team for the project included local nonprofit organizations that addressed city repairs, resident landscape designers and architects, advocates, and other community members.

Effectiveness (1-3)

• The Community Guide rates the evidence for street-scale urban design and land-use policies and practices as sufficient.

• The recommendation for street-scale urban design is based on review of six studies, in which the median increase in physical activity across all effect measures (difference or change in people walking, number active, or users of path or cyclists) was 35%.

• Other potential benefits include improvements in green space, increased sense of community, decreased isolation, and reduction in crime and stress.

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Physical Activity Strategy 5: Community-Scale Urban Design and Land-Use Policies and Practices

Description (1,2)

Community-scale urban design and land-use regulations, policies and practices commonly strive to create more livable communities. The following are general characteristics of community-scale urban design and land-use policies and practices:

• Typically represent large geographic areas, generally several square miles or more and involve a broad array of disciplines and expertise, such as public-health professionals, urban planners, architects, engineers, and developers.

• Design elements and practices, such as:
    - o ensuring sidewalk construction or improvements

- o increasing the ease and safety of crossing streets
- o introducing or enhancing traffic-calming and speed-reduction measures (e.g., speed bumps, traffic circles)
- o improving street lighting
- o enhancing aesthetics of the street landscape
- o addressing safety issues (e.g., perception of crime)
- o considering community design, density, and diversity by planning mixed-development communities; addressing the density and diversity of residential and commercial development; and locating stores, jobs, schools, and recreation areas within walking distance of where people live

• Land-use policies and practices, such as:
- o environmental changes
- o roadway design standards
- o zoning regulations
- o building codes
- o builders' practices

Example

• *The Montgomery County, Maryland Pedestrian Safety Advisory Committee* (3-5) appointed a Blue Ribbon Panel on Pedestrian and Traffic Safety in June 2000 under growing concerns about pedestrian safety and access amidst increasing pedestrian fatalities. As part of their research, the panel, consisting of 40 multidisciplinary members, analyzed trends and examined all aspects of hazardous driving from both behavioral and engineering perspectives. The panel released a report of their work in 2002 that outlined 54 recommendations organized by a) education, b) enforcement, c) engineering, and d) legislation. The report recommended a pedestrian impact statement as a requirement for all construction projects. The statement includes assessment of connectivity with destinations within two miles; master plan items for sidewalks, bikeways, and streetscape requirements; existing conditions related to pedestrian walkability and safety; and recommended improvements and their related costs. Developers in Montgomery County were encouraged to assess pedestrian impact on both new and existing projects. Following this report, a recommendation was made to create the Pedestrian Safety Advisory Committee to oversee the implementation of the recommendations made in the Blue Ribbon Panel report. The Pedestrian Impact Statement Policy was formally adopted in May 2004. Collaboration with developers was key, but most were already conducting similar assessments so the new county policy

was adopted with little resistance. In July 2007 legislation was approved to require all capital improvement projects to submit bicycle and pedestrian impact statements. The Pedestrian Safety Advisory Committee continues to sustain itself as a committee within the county executive government and continues to set the agenda and report on the status of the implementation of the recommendations made by the Blue Ribbon Panel Report.

Effectiveness (1-3)
• The Community Guide rates the evidence for community-scale urban design and land use policies and practices as sufficient.

• The recommendation for this intervention is based on review of 12 studies in which the median increase across a variety of measures of physical activity related to these interventions was 161%.

• Other potential benefits include improvements in green space, increased sense of community, decreased isolation, and reductions in crime and stress.

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Target Area: Tobacco

Background and Rationale
Tobacco use is the single largest cause of preventable premature death in the United States and exposure to environmental tobacco smoke (ETS) is a preventable cause of significant illness and death. The history of successful public health practice has demonstrated that the active and coordinated involvement of a wide range of societal and community resources must be the foundation of sustained solutions to pervasive

problems like tobacco use (1-5) In the evidence-based review of population-based tobacco prevention and control efforts, the Task Force on Community Preventive Services confirmed the importance of coordinated and combined intervention efforts (6), The strongest evidence demonstrating the effectiveness of many of the population-based approaches that are most highly recommended by the Task Force comes from studies in which specific strategies for smoking cessation and prevention of initiation are combined with efforts to mobilize communities and integrate these strategies into synergistic and multi-component efforts (6). Additionally, research has demonstrated the importance of community support and involvement at the grassroots level in implementing several of the most highly effective policy interventions, such as increasing the unit price of tobacco products and creating smoke-free environments (3,4,7,8). The community-based intervention model to create a social and legal climate "in which tobacco becomes less desirable, less acceptable, and less accessible" has now become a core element of statewide comprehensive tobacco control programs (3,4,7,9-11).

The CDC-recommended comprehensive statewide tobacco control program combines and coordinates community-based interventions that focus on 1) preventing initiation of tobacco use among youth and young adults, 2) promoting quitting among adults and youth, 3) eliminating exposure to secondhand smoke, and 4) identifying and eliminating tobacco-related disparities among population groups. Reducing tobacco use is particularly challenging because tobacco products are so highly addictive. To quote the tobacco industry, "Smoke is beyond question the most optimized vehicle of nicotine and the cigarette the most optimized dispenser of smoke"(12). Additionally, the tobacco industry spends billions of dollars annually to make tobacco use appear to be attractive as well as an accepted and established part of American culture. In addition to these tobacco advertising and promotion campaigns, both adults and youth have been and continue to be heavily exposed to images of smoking in the movies and other mass media (13-16). Effectively countering these pervasive pro-tobacco influences and helping people stop using these highly addictive tobacco products requires the coordinated implementation of a broad range of statewide and community level programs and policies to influence societal organizations, systems, and networks that encourage and support individuals to make behavior choices consistent with tobacco-free norms (3,4,9,17,18).

The CDC-recommended community-based model to produce durable changes in social norms is based on evidence that approaches with the greatest span (economic, regulatory, and comprehensive) will have the greatest population impact (3,4,7,19-21). Recommendations from evidence-based reviews indicate that more individually focused educational and clinical approaches with a smaller span of impact should be combined with population-based efforts at the state and community levels (3,4,6,7,19). Interventions as part of the Building Healthy Communities program should focus on the population-based efforts.

Effective community programs involve and influence people in their homes, work sites, schools, places of worship, places of entertainment, health care settings, civic

organizations, and other public places (1,3-5,23). Changing policies that can influence societal organizations, systems, and networks necessitates the involvement of community partners (1,2,4). Decreasing disparities in tobacco use occurs largely through community interventions.

Tobacco Strategy 1: Smoking Bans and Restrictions to Reduce Exposure to Environmental Tobacco Smoke (ETS)

Policies to reduce smoking indoors reduce exposure to ETS; they can also result in both a reduction in the number of cigarettes smoked each day and an increase in the number of smokers who quit. There are two main types of policies:

- Smoking bans and restrictions are policies, regulations, and laws that limit smoking in workplaces and other public areas.

- Smoking bans prohibit smoking entirely; smoking restrictions limit smoking to designated areas.

Examples

- Instituting smoking bans in parks, farmers' markets, beaches, and trails.
- Smoke-free workplace policies.
- Smoke-free city ordinances.

Effectiveness

A systematic review of published studies, conducted on behalf of the Task Force on Community Preventive Services by a team of experts, found that smoking bans and restrictions are effective in reducing exposure to ETS. Based on this review, the Task Force recommends that this strategy be implemented on the basis of *strong* evidence of effectiveness.

- Studies that evaluated the effect of smoking bans in workplaces observed an average 72% reduction in exposure to components of ETS (e.g. nicotine vapor).

- Smoking bans were more effective in reducing ETS than smoking restrictions.

- Smoking bans were effective in a wide variety of public and private workplaces and health care settings. Their effectiveness should extend to most indoor workplaces in the United States.

- Studies observing smoking bans also observed reductions in the amount smoked.

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Other Key Resources

NOTE: A variety of reports are available at www.thecommunityguide.org/tobacco/

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